



24-Port Gigabit Ethernet Switch Fabric Module Quick Start Guide

For the CoreBuilder® 9000 Enterprise Switch

Module Description

The 24-port Gigabit Ethernet (GEN) Switch Fabric Module (SFM) (Model Number 3CB9FG24T) is the central backplane aggregator for the CoreBuilder® 9000 Enterprise Switch. The 24-port GEN Switch Fabric Module has 24 nonblocking Gigabit Ethernet ports that connect to the chassis backplane to provide high-speed, low-latency connectivity between CoreBuilder 9000 switching modules. You can install the 24-port GEN Switch Fabric Module in the 7-slot chassis, 8-slot chassis, or 16-slot chassis.



CAUTION: *If you are upgrading from a Model 3CB9FG24 switch fabric module, before you proceed, read the CoreBuilder 9000 Release Notes for the Gigabit Ethernet (GEN) Switch Fabric Modules and GEN Interface Modules.*

Key Features

The 24-port GEN Switch Fabric Module supports these key features:

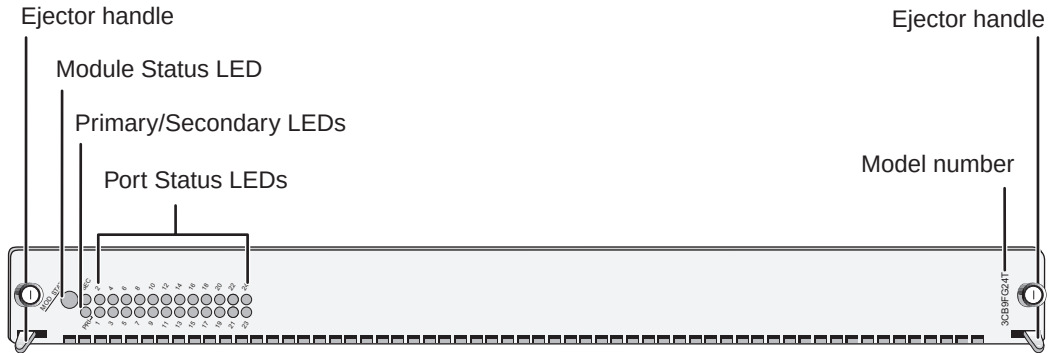
- 48 Gbps switching capacity
- Redundant operation when two identical 24-port GEN Switch Fabric Modules are installed (8-slot and 16-slot chassis only)
- Hot-swapping of modules
- Management using the Administration Console (a command line interface), the Web Management suite of applications with an Internet browser, or SNMP-based applications

For information about the software features that this module supports, see these documents:

- *CoreBuilder 9000 Implementation Guide*
- *Command Reference Guide*
- *CoreBuilder 9000 Release Notes for the Gigabit Ethernet (GEN) Switch Fabric Modules and GEN Interface Modules*

Front Panel Figure 1 identifies the components on the module front panel.

Figure 1 Front Panel for the GEN Switch Fabric Module



In the 7-slot chassis, you install the module horizontally with the LEDs at the left. In the 8-slot chassis and 16-slot chassis, you install the module vertically with the LEDs at the top.

Audience Description This guide is intended for *trained technical personnel* only. Do not attempt to install, remove, or replace the module if you have not had the proper training from 3Com. For training information in the United States and Canada, call 1-800-NET-3COM. For numbers to call in other locations, visit the 3Com Web site:

www.3Com.com/support/

Safety Precautions

When you handle components in a CoreBuilder 9000 system, be sure to follow all safety precautions. To avoid electric shocks, burns, or equipment damage, read and follow these warnings:



WARNING: Allow only trained service personnel to install, remove, or replace any module in the chassis.



WARNING: Hazardous energy exists within the system. Use extreme caution when you install, remove, or replace any module in the chassis. When the system is on:

- Never insert metal objects such as a screwdriver or a finger with jewelry into open module slots.
- Do not touch any connections within the chassis with your hands or fingers.

ESD Safety Information

Electrostatic discharge (ESD) can damage components of the module. ESD, which occurs when the module is improperly handled, can cause complete or intermittent failures.



CAUTION: To prevent ESD-related damage:

- Always wear an ESD wrist strap (not provided) when you handle a module, ensuring that the strap makes good skin contact and is properly grounded.
- Keep the module in its antistatic bag until you are ready to install it.

Handling Precautions

When you handle the module, follow these precautions:

- Always handle the module by the front panel only.
- Do not touch the components, pins, leads, or solder connections.
- Do not twist or otherwise force the module into the chassis when you insert it into the module guides.
- Before you push the module into the chassis, verify that the module ejector handles are open.
- When you slide the module into the 7-slot chassis, match the left and right module guides. In the 8-slot or 16-slot chassis, match the upper and lower module guides.

For details, see “Installation Prerequisites” and “Installing the Module” later in this guide.

Unpacking Instructions

Use the following procedure when you unpack the Switch Fabric Module:

- 1 Verify that the 24-port GEN Switch Fabric Module is the correct model by matching the 3C number that is listed on the shipping box label to the 3C number that you ordered (Model Number 3CB9FG24T).
- 2 Remove the module, in its antistatic bag, from the shipping box.
- 3 Observing the caution instructions, remove the module from its antistatic bag and inspect it for physical damage.



CAUTION: Handle the module only by the front panel. Do not touch any components, pins, leads, or solder connections.

If the module appears to be damaged, replace it in its antistatic bag, put it back in the shipping box, and contact your network supplier.

- 4 Verify that the box also contains:
 - *CoreBuilder 9000 Release Notes for the Gigabit Ethernet (GEN) Switch Fabric Modules and GEN Interface Modules*
 - *24-Port Gigabit Ethernet Switch Fabric Module Quick Start Guide for the CoreBuilder 9000 Enterprise Switch* (this guide)

If the listed contents are not in your shipping box, contact your network supplier.



All shipping boxes are reusable. After you remove the contents, replace the packing materials and store the shipping box for future use.

Installation Prerequisites

Before you install the 24-port GEN Switch Fabric Module, make the following preparations:

- Verify that the chassis is properly installed in a rack, on a table, or on a shelf, according to the instructions in either of these guides:
 - *7-Slot Chassis Quick Installation Guide for the CoreBuilder 9000 Enterprise Switch*
 - *Chassis Quick Installation Guide for the CoreBuilder 9000 Enterprise Switch 8-slot Chassis and 16-slot Chassis*
- Have a flat-blade torque screwdriver available to secure the module to the chassis after you install it.
- Read the *CoreBuilder 9000 Release Notes for the Gigabit Ethernet (GEN) Switch Fabric Modules and GEN Interface Modules* for important information about installing and upgrading modules in an existing chassis or a new chassis.



CAUTION: All modules in a CoreBuilder 9000 chassis must operate at compatible software levels. You must verify the software release on all new and existing modules in your chassis and upgrade as necessary. See the CoreBuilder 9000 Release Notes for the Gigabit Ethernet (GEN) Switch Fabric Modules and GEN Interface Modules for a module software compatibility requirements table, mandatory upgrade procedures, and other important information.

Module Placement in the Chassis

Note the following chassis slot restrictions and recommendations when you choose a slot for your 24-port GEN Switch Fabric Module:

- In the CoreBuilder 9000 7-slot chassis, you must install the 24-port GEN Switch Fabric Module in slot 7. This is the only slot available for a GEN Switch Fabric Module.
- In the CoreBuilder 9000 8-slot chassis, you must install the 24-port GEN Switch Fabric Module in slot 7 or slot 8. The availability of two slots allows for redundant operation.

If you install only one GEN Switch Fabric Module in the 8-slot chassis, 3Com recommends that you install it in slot 7.

- In the CoreBuilder 9000 16-slot chassis, you must install the 24-port GEN Switch Fabric Module in slot 8 or slot 9. The availability of two slots allows for redundant operation.

If you install only one GEN Switch Fabric Module in the 16-slot chassis, 3Com recommends that you install it in slot 8.

Redundant Operation

In the 8-slot chassis and 16-slot chassis, you can install two identical 24-port GEN Switch Fabric Modules to provide redundant operation.



CAUTION: *If you are installing a second GEN Switch Fabric Module for redundancy, both modules must be the FG24T model (Model Number 3CB9FG24T). If you already have an FG24 module (Model Number 3CB9FG24) installed, you must replace it with an FG24T model if you want to add a second module. You cannot install an FG24T module as a redundant module in the same chassis with an FG24 module.*

The backup (secondary) GEN Switch Fabric Module mirrors all configuration and operation parameters of the primary Switch Fabric Module. It also receives all traffic that the primary GEN Switch Fabric Module receives, but its transmit functions are disabled. If a problem occurs with the primary module, the system software immediately enables the transmit function of the backup GEN Switch Fabric Module, keeping the network up and running.

A GEN Switch Fabric Module becomes the primary switch under the following conditions:

- It is the only GEN Switch Fabric Module in the chassis.
- It has a lower slot number (assuming that the other GEN Switch Fabric Module is not primary or is in a primary transition state).
- The primary GEN Switch Fabric Module fails, and the system activates the backup GEN Switch Fabric Module.

A second GEN Switch Fabric Module becomes the backup (secondary) switch fabric module under the following conditions:

- The other GEN Switch Fabric Module is already primary.
- The other GEN Switch Fabric Module is installed in a lower slot number in the chassis.

**Role of the Switch
Fabric Module in the
Chassis**

The 48 Gbps capacity of the 24-port GEN Switch Fabric Module is apportioned among the slots in the CoreBuilder 9000 7-slot chassis, 8-slot chassis, or 16-slot chassis. The module capacity is expressed in terms of 48 Gigabit Ethernet *backplane ports*.

One or more of these 24-port GEN Switch Fabric Module backplane ports are assigned to each switching module slot; the exact number depends on the chassis type and slot number. When a switching module is installed, its rear ports communicate with the 24-port GEN Switch Fabric Module backplane ports that are assigned to that slot.

Table 1, Table 2, and Table 3 list how the capacity of the 24-port GEN Switch Fabric Module (SFM) is allocated across the slots in the CoreBuilder 9000 7-slot chassis, 8-slot chassis, and 16-slot chassis, as well as assignments for the backplane port and LEDs. Use this information to decide where to place switching modules and for general administration purposes.

Table 1 Mapping the 24-port GEN Switch Fabric Module (SFM) to the 7-slot Chassis

Chassis Slot Number	Number of SFM Backplane Ports Allocated to Slot	SFM Backplane Port Numbers Assigned to Chassis Slot	SFM LED Numbers Assigned to Backplane Port Numbers
1	4	1	1
		2	2
		3	13
		4	14
2	4	5	3
		6	4
		7	15
		8	16
3	4	9	5
		10	6
		11	17
		12	18
4	4	13	7
		14	8
		15	19
		16	20
5	4	17	9
		18	10
		19	21
		20	22
6	4	21	11
		22	12
		23	23
		24	24
7	Reserved for an SFM	Not applicable	Not applicable

Table 2 Mapping the 24-port GEN Switch Fabric Module (SFM) to the 8-slot Chassis

Chassis Slot Number	Number of SFM Backplane Ports Allocated to Slot	SFM Backplane Port Numbers Assigned to Chassis Slot	SFM LED Numbers Assigned to Backplane Port Numbers
1	4	1	1
		2	2
		3	13
		4	14
2	4	5	3
		6	4
		7	15
		8	16
3	4	9	5
		10	6
		11	17
		12	18
4	4	13	7
		14	8
		15	19
		16	20
5	4	17	9
		18	10
		19	21
		20	22
6	4	21	11
		22	12
		23	23
		24	24
7	Reserved for an SFM	Not applicable	Not applicable
8	Reserved for an SFM	Not applicable	Not applicable

Table 3 Mapping the 24-port GEN Switch Fabric Module (SFM) to the 16-slot Chassis

Chassis Slot Number	Number of SFM Backplane Ports Allocated to Slot	SFM Backplane Port Numbers Assigned to Chassis Slot	SFM LED Numbers Assigned to Backplane Port Numbers
1	2	1	1
		2	2
2	2	3	3
		4	4
3	2	5	5
		6	6
4	2	7	7
		8	8
5	2	9	9
		10	10
6	2	11	11
		12	12
7	2	13	13
		14	14
8	Reserved for an SFM	Not applicable	Not applicable
9	Reserved for an SFM	Not applicable	Not applicable
10	2	15	15
		16	16
11	2	17	17
		18	18
12	2	19	19
		20	20
13	1	21	21
14	1	22	22
15	1	23	23
16	1	24	24

Installing the Module To install the 24-port GEN Switch Fabric Module, follow these steps:

- 1 Before you start the installation process, read and follow the instructions in “Safety Precautions,” “Handling Precautions,” and “Installation Prerequisites” earlier in this guide.
- 2 Select a chassis slot for your module, following the restrictions and recommendations in “Module Placement in the Chassis” earlier in this guide.
- 3 To expose a slot for the module, remove the blank faceplate.

Save this faceplate in case you need it in the future. Empty slots must be covered to ensure proper airflow and cooling in the chassis.



3Com recommends that you remove the faceplate only for the slot where you intend to install an individual module; leave the remaining faceplates in the chassis.

- 4 Open the module ejector handles.
- 5 Begin to insert the module:
 - In the 7-slot chassis, hold the module horizontally with the LEDs to the left and begin to insert the module using the guides on the left and the right of the slot. Figure 2 shows the module position in a 7-slot chassis.
 - In the 8-slot chassis and 16-slot chassis, hold the module vertically with the LEDs at the top and begin to insert the module using the guides on the top and the bottom of the slot. Figure 3 shows the module position in a 16-slot chassis. The module position is the same in an 8-slot chassis.



CAUTION: Do not twist or bend the module when you insert it.

- 6 Slide the module into the chassis by pushing firmly on the two ends of the front panel near the ejector handles.



WARNING: Hazardous energy exists inside the chassis. Do not place hands or objects into the chassis or touch any components on an inserted module.

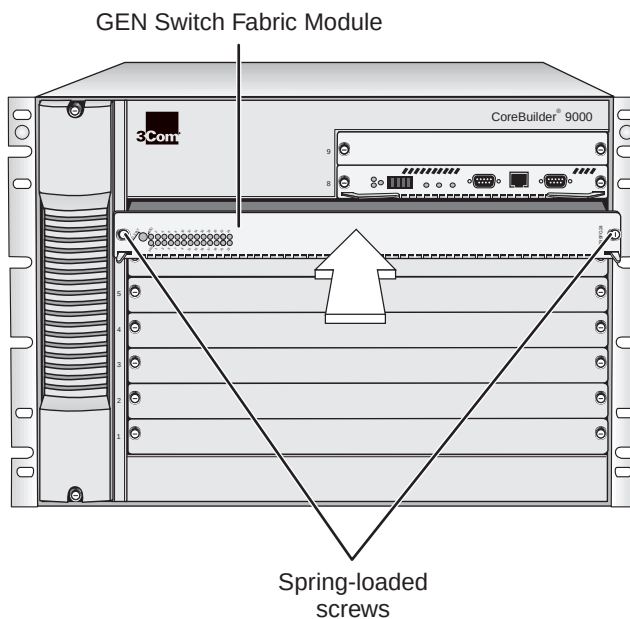
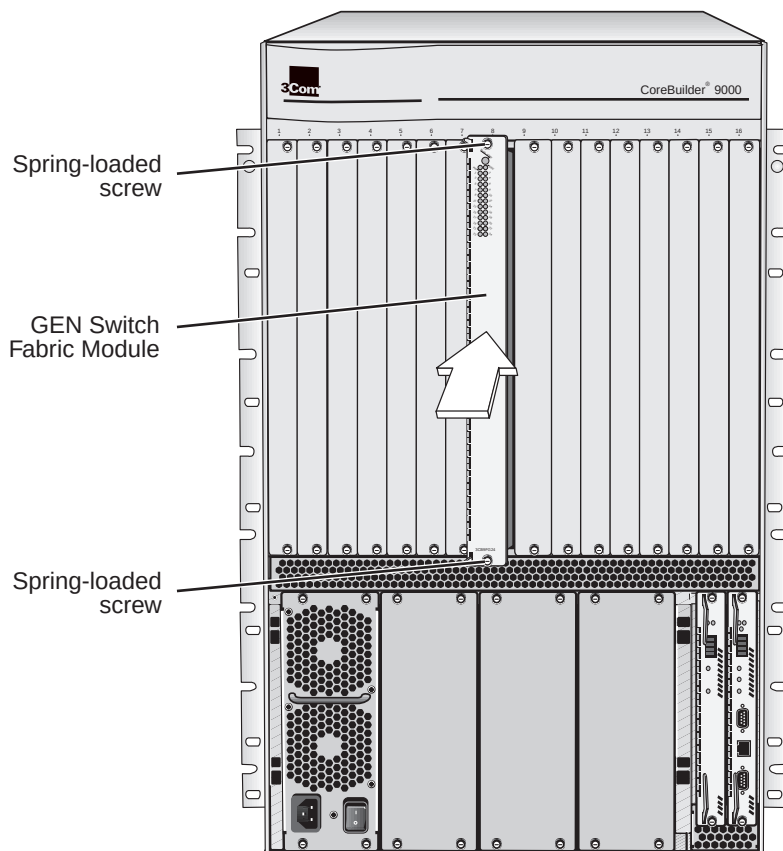
Figure 2 Installing the 24-port GEN Switch Fabric Module in the 7-Slot Chassis

Figure 3 Installing the 24-port GEN Switch Fabric Module in the 16-Slot Chassis

- 7 To engage the module with the backplane, use both hands to perform the following steps:
 - a Push firmly at the two ends of the front panel near the ejector handles until you feel the module connectors make firm contact with the backplane connectors.
 - b Put your left thumb on the left or top ejector handle and your right thumb on the right or bottom ejector handle. Simultaneously, push the ejector handles in towards the front panel until each handle is parallel with the front panel.

You feel a slight resistance as the connectors fully engage.



CAUTION: *If there is too much resistance when you try to close the ejector handles, the module backplane connector may not be aligned. Forcing the module into place can damage the module connectors and backplane connectors. If necessary, remove and reinsert the module, ensuring that the connectors are properly aligned. Do not tighten the spring-loaded screws to seat the module.*

- 8 To secure the module in the chassis, tighten the spring-loaded screws to a torque specification of 3 to 5 inch-pounds.



CAUTION: *Verify that the module screws are properly aligned with the threaded holes in the chassis. If the screws are not aligned when you tighten them, you may strip the threads and make it impossible to secure the module.*



To ensure that you tighten screws to torque specification, use a torque screwdriver.



WARNING: *To ensure adequate cooling airflow and continued product safety agency compliance, install blank faceplates over all empty slots.*

If the system is on, the module initialization process begins.

Verifying Module Operation

The 24-port GEN Switch Fabric Module has one Module Status LED and 24 Port Status LEDs on its front panel. The Port Status LEDs correspond to the 24 backplane ports. For the correspondence between LEDs and backplane ports in chassis slots, see Table 1, Table 2, and Table 3 earlier in this guide.

Watch the LEDs during the system power-on diagnostic test to verify proper module operation:

- On the Module Status LED, the normal power-on diagnostic test sequence is: Green – Yellow – Green – Flashing Green (while running the diagnostic test) – Green



If the Module Status LED is yellow after the diagnostics run, the module has failed.

- The Port Status LEDs are tested during the diagnostic test. The normal test sequence is: Yellow – Green – Off

Table 4 describes the LED colors and states.

Table 4 Module and Port Status LED Indicators

LED	State and Color	Description
Module Status	Green	Power is on (normal operation).
	Flashing Green	Diagnostics or download in progress.
	Yellow	Power is available, but module failed power-on self test, diagnostics, or download.
	Off	No power.
Port Status	Green	Port is enabled and link is up.
	Flashing Green	Port is receiving or transmitting packets.
		Software download is in progress.
	Yellow	Module or port is malfunctioning.
	Off	Port is disabled or link is down.

The front panel of the 24-port GEN Switch Fabric Module also contains two LEDs that indicate primary and secondary operation. Table 5 lists the colors and definitions.

Table 5 Primary and Secondary LED Status Indicators

Primary Status LED State (Blue)	Secondary Status LED State (Green)	Description
Off	Off	Election is in progress.
Off	On	Module is a backup switch fabric module.
On	Off	Module is a primary switch fabric module.
On	On	Module is malfunctioning.

Managing the Module

You can configure and manage the 24-port GEN Switch Fabric Module using several interfaces. The following sections describe two of the interfaces.

Administration Console

The Administration Console is the embedded menu-driven command line interface that you access from a terminal or through terminal emulation software.

To manage the module from the Administration Console:

- 1 Log in to the EME.

For information about how to log in to the EME, see the *CoreBuilder 9000 Enterprise Management Engine User Guide*.

- 2 At the EME prompt, enter:

connect <slot>.**1**

where <slot> is the chassis slot number of the module that you want to manage, and the number after the decimal point is a subslot number, which is always 1.

The top level of the Administration Console menu for the module appears.

- 3 Enter commands to manage the module. For example, to display a module baseline, enter:

module baseline display

For more information about the Administration Console module commands, see the *Command Reference Guide*.

Web Management

Web Management applications are an embedded part of the system. They include WebConsole, DeviceView, and Performance monitoring tools. Additional installable applications include online Help.

After you have set up the IP address for your system, you can access the Web Management applications directly in your Web browser by entering the IP address.

For information about setting up your IP address, see the *Enterprise Management Engine Quick Start Guide for the CoreBuilder 9000 Enterprise Switch*. For additional information about Web Management, see the *Web Management User Guide for the CoreBuilder 9000 Enterprise Switch*.

Specifications The following tables list the specifications for the module:

Environmental Requirements

Operating temperature	0 to 50 °C (32 to 122 °F)
Operating humidity	10% to 90% relative humidity, noncondensing
Storage temperature	–40 to 66 °C (–40 to 151 °F)
Storage humidity	5% to 95% relative humidity, noncondensing

Physical Specifications

Dimensions

38.1 mm x 337.82 mm x 388.112 mm
(1.5 in. x 13.3 in. x 15.28 in.)

Weight

1.362 kg
(3 lb)

Power Specifications

Voltage

+5.2 V

+3.5 V

+12 V

Wattage

1 W

125 W

1 W

Total Wattage = 127

Regulatory Compliance

Safety

- CSA 22.2 No. 950
- EN 60950
- IEC 60950 (formerly IEC 950)
- UL 1950
- EN 60825 -1, -2
- CE Mark

Emissions

- FCC Part 15 Class A
- ICES003 Class A
- VCCI Class A
- EN 55022 Class A
- EN 50082-1
- AS3548 (C-Tick Mark)
- CISPR 22 Class A
- CE Mark

Related CoreBuilder 9000 Documents

For detailed information about using and managing your GEN Switch Fabric Module, see the following documents:

- *CoreBuilder 9000 Implementation Guide*
- *Command Reference Guide*
- *CoreBuilder 9000 Enterprise Management Engine User Guide*
- *Web Management User Guide for the CoreBuilder 9000 Enterprise Switch*

For the software code installation procedure as well as known problem information for your 24-port GEN Switch Fabric Module, see the *CoreBuilder 9000 Release Notes for the Gigabit Ethernet (GEN) Switch Fabric Modules and GEN Interface Modules*.

For information about installing and powering on the system, see the following documents:

- *CoreBuilder 9000 Enterprise Switch Getting Started Guide*
- *7-Slot Chassis Quick Installation Guide for the CoreBuilder 9000 Enterprise Switch*
- *Chassis Quick Installation Guide for the CoreBuilder 9000 Enterprise Switch 8-slot Chassis and 16-slot Chassis*
- *7-Slot Chassis Power Supply Installation Guide for the CoreBuilder 9000 Enterprise Switch*
- *Power Supply Installation Guide for the CoreBuilder 9000 Enterprise Switch 8-slot Chassis and 16-slot Chassis*

You can view and print these and other current CoreBuilder 9000 documents from the following sources:

- 3Com Web site
<http://support.3com.com/nav/switches.htm>
- *CoreBuilder 9000 Documentation CD-ROM*

This CD-ROM is included in the chassis shipping box. You can also order the CD-ROM separately (Order Number 3CB9DB).

3Com Corporation LIMITED WARRANTY

CoreBuilder® 9000 24-Port Gigabit Ethernet Switch Fabric Module (Model Number 3CB9FG24T)

HARDWARE

3Com warrants to the end user ("Customer") that this hardware product will be free from defects in workmanship and materials, under normal use and service, for one (1) year from the date of purchase from 3Com or its authorized reseller.

3Com's sole obligation under this express warranty shall be, at 3Com's option and expense, to repair the defective product or part, deliver to Customer an equivalent product or part to replace the defective item, or if neither of the two foregoing options is reasonably available, 3Com may, in its sole discretion, refund to Customer the purchase price paid for the defective product. All products that are replaced will become the property of 3Com. Replacement products may be new or reconditioned. 3Com warrants any replaced or repaired product or part for ninety (90) days from shipment, or the remainder of the initial warranty period, whichever is longer.

SOFTWARE

3Com warrants to Customer that each software program licensed from it will perform in substantial conformance to its program specifications, for a period of ninety (90) days from the date of purchase from 3Com or its authorized reseller. 3Com warrants the media containing software against failure during the warranty period. No updates are provided. 3Com's sole obligation under this express warranty shall be, at 3Com's option and expense, to refund the purchase price paid by Customer for any defective software product, or to replace any defective media with software which substantially conforms to applicable 3Com published specifications. Customer assumes responsibility for the selection of the appropriate applications program and associated reference materials. 3Com makes no warranty or representation that its software products will meet Customer's requirements or work in combination with any hardware or applications software products provided by third parties, that the operation of the software products will be uninterrupted or error free, or that all defects in the software products will be corrected. For any third-party products listed in the 3Com software product documentation or specifications as being compatible, 3Com will make reasonable efforts to provide compatibility, except where the noncompatibility is caused by a "bug" or defect in the third party's product or from use of the software product not in accordance with 3Com's published specifications or user manual.

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Any software update or replaced or repaired product will carry a Year 2000 Warranty for ninety (90) days after purchase or until April 1, 2000, whichever is later.

OBTAINING WARRANTY SERVICE

Customer must contact a 3Com Corporate Service Center or an Authorized 3Com Service Center within the applicable warranty period to obtain warranty service authorization. Dated proof of purchase from 3Com or its authorized reseller may be required. Products returned to 3Com's Corporate Service Center must be preauthorized by 3Com with a Return Material Authorization (RMA) number or User Service Order (USO) number marked on the outside of the package, and sent prepaid and packaged appropriately for safe shipment, and it is recommended that they be insured or sent by a method that provides for tracking of the package. Responsibility for loss or damage does not transfer to 3Com until the returned item is received by 3Com. The repaired or replaced item will be shipped to Customer, at 3Com's expense, not later than thirty (30) days after 3Com receives the defective product.

3Com shall not be responsible for any software, firmware, information, or memory data of Customer contained in, stored on, or integrated with any products returned to 3Com for repair, whether under warranty or not.

Dead- or Defective-on-Arrival. In the event a product completely fails to function or exhibits a defect in materials or workmanship within the first forty-eight (48) hours of installation but no later than thirty (30) days after the date of purchase, and this is verified by 3Com, it will be considered dead- or defective-on-arrival (DOA) and a replacement shall be provided by advance replacement. The replacement product will normally be shipped not later than three (3) business days after 3Com's verification of the DOA product, but may be delayed due to export or import procedures. The shipment of advance replacement products is subject to local legal requirements and may not be available in all locations. When an advance replacement is provided and Customer fails to return the original product to 3Com within fifteen (15) days after shipment of the replacement, 3Com will charge Customer for the replacement product, at list price.

Advance Replacement is provided for ninety (90) days, after which time it may be available for a specified fee. 3Com will make commercially reasonable efforts to ship the replacement product not later than five (5) business days after receiving the request for advance replacement, but may be delayed due to product availability or export or import procedures. The shipment of advance replacement products is subject to local legal requirements and may not be available in all locations. When an advance replacement is provided and Customer fails to return the original product to 3Com within fifteen (15) days after shipment of the replacement, 3Com will charge Customer for the replacement, at list price. This advance replacement is different from the fee-based Advance Hardware Replacement Service, which is available as a contracted service offering.

INCLUDED SERVICES:

Telephone Support, with coverage for basic troubleshooting only, will be provided for ninety (90) days from the date of purchase, on a commercially reasonable efforts basis. Please refer to the Technical Support appendix in the Getting Started Guide for telephone numbers.

3Com's Web and Bulletin Board Services provide 3Knowledgebase, bug tracking, documentation, release notes, and some software maintenance releases at no charge.

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GOVERNING LAW

This Limited Warranty shall be governed by the laws of the State of California, U.S.A., excluding its conflicts of laws principles and excluding the United Nations Convention on Contracts for the International Sale of Goods.

3Com Corporation, 5400 Bayfront Plaza, P.O. Box 58145, Santa Clara, CA 95052-8145 (408) 326-5000

EMISSIONS COMPLIANCE STATEMENTS FOR CLASS A PRODUCTS

Federal Communications Commission Notice	This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his or her own expense.
Canadian Emissions Requirements	This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations. Cet appareil numérique de la classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.
VCCI Class A Compliance	

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスA情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

This is a Class A product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, the user may be required to take corrective actions.

EMC DIRECTIVE STATEMENT

EMC Directive Compliance	This equipment was tested and found to conform to the Council Directive 89/336/EEC for electromagnetic compatibility. Conformity with this Directive is based upon compliance with the following harmonized standards:
EN 55022	Limits and Methods of Measurement of Radio Interference
EN 50082-1	Electromagnetic Compatibility Generic Immunity Standard: Residential, Commercial, and Light Industry

Warning: This is a Class A product. In a domestic environment, this product may cause radio interference, in which case you may be required to take adequate measures.

LOW VOLTAGE DIRECTIVE STATEMENT

Low Voltage Directive Compliance	This equipment was tested and found to conform to the Council Directive 72/23/EEC for safety of electrical equipment. Conformity with this Directive is based upon compliance with the following harmonized standard:
EN 60950	Safety of Information Technology Equipment

GENERAL APPROVAL STATEMENT FOR UK

UK General Approval Statement	This equipment is manufactured to the international Safety Standard EN60950 and is approved in the UK under the General Approval Number NS/G/12345/J/100003 for indirect connection to the public telecommunication network.
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AUSTRALIAN EMC FRAMEWORKS STATEMENT

Australian EMC Frameworks Compliance	This product conforms to the EMC Frameworks and meets the Class A limits of AS3548.
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